Attachment H

PG&E's Comments on the South Fork Yuba River Listing for Mercury

WATER SEGMENT: Yuba River, South (Lake Spaulding to Englebright Reservoir)

POLLUTANT: Mercury

CVRWQCB LISTED SOURCE: Resource Extraction

STATUS of Proposed 2008 303(d) LISTING: List

CVRWQCB BASIS: After review of the available data and information, Central Valley Regional Water Quality Control Board (CVRWQCB) staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded and a pollutant contributes to or causes the problem.

PG&E RECOMMENDATION: Do Not List any river segments of the South Yuba River from Lake Spaulding to Englebright Reservoir

Address potential for listing the South Yuba River by water segments (federally recognized individual river reaches) and list or do not list based upon known available data or evidence for each individual river reach (water segment). Based upon the known available data, there is no justification for listing any water segment of the South Yuba River for mercury.

PG&E COMMENTS: The CVRWQCB has proposed listing of the South Yuba River from below Spaulding Reservoir to Englebright Reservoir (a 41+ mile length of river) due to exceedances of the Office of Environmental Health Hazard Assessment (OEHHA) mercury criterion (0.3 ppm) which occurred in one sample from 1980 near Bridgeport in Humbug Reach (most downstream segment, at a concentration of 0.69 ppm) and in one sample from 1993 from downstream of Washington Creek in Canyon Reach (approximately 28 miles upstream of the Bridgeport sample at a concentration of 0.3 ppm). Samples collected from Jordan Reach below Lake Spaulding did not exceed the criteria; and samples collected in Humbug Reach near Edwards Crossing (upstream from Bridgeport and downstream from Washington) did not exceed the criterion.

No known fish tissue samples were collected from Rucker Reach, Fall Reach, or Poorman Reach.

PG&E believes that the TMDL process will be more reflective of current conditions and truly impaired water segments may be addressed more efficiently if water segment delineation were followed when determining the list of 303(d) impaired waters. In addition, all known available data should only be applied to the reach or water segment in which it was collected; possible impairment cannot be inferred to upstream or downstream reaches if known available data for those river reaches do not indicate impairment, are not available, or have not been collected.

Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A).

Factsheets for each reach of the South Yuba River (Jordan, Rucker, Fall, Canyon, Poorman, and Humbug) are provided in this submission (see Figure H-1). Factsheets for all of the reaches in the South Fork Yuba River demonstrate that these reaches should not be listed for mercury because known available data do not indicate impairment or there are no known data available to make a determination regarding listing. It should also be noted that there are two other short reaches below Lake Spaulding; the "South Yuba below Spaulding Dam Reach" which is 0.2 miles long and goes from Spaulding Dam to Spaulding No. 2 Powerhouse, and the "South Yuba below Spaulding No. 2 Powerhouse Reach" is 0.7 miles and goes from PH #2 to Jordan Creek confluence. However, there are no data available within either of these very short reaches, and they are not included in the factsheets provided by PG&E below.

There is no justification for listing any river segment of the South Yuba River on the 303(d) list of impaired water bodies.

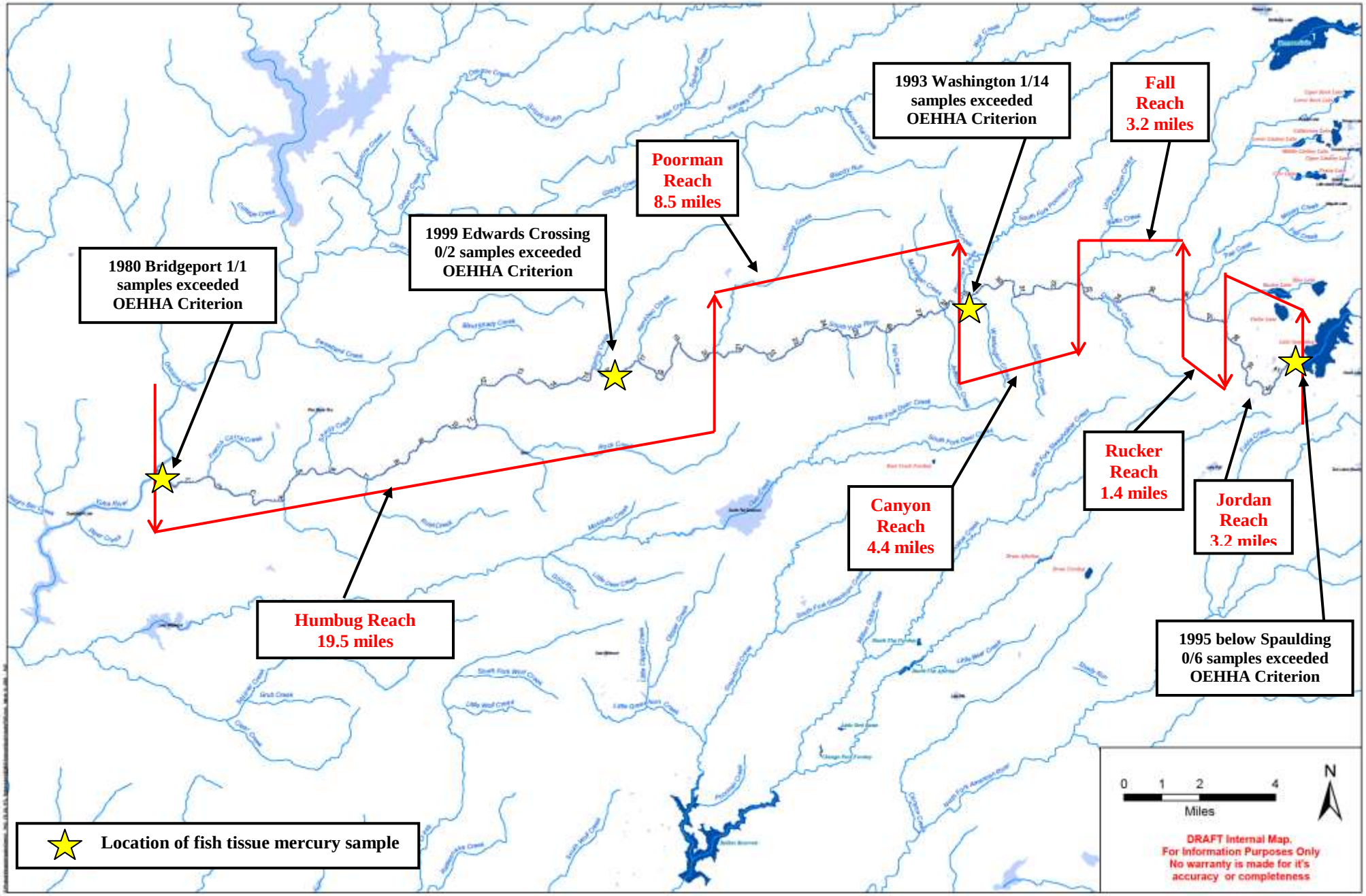

Figure H-1. Water Segment Delineation for the South Fork Yuba River for Mercury (Hg) Assessment in Fish Tissue

FACTSHEETS

EVALUATION OF SOUTH FORK YUBA RIVER

BY SEGMENT OR REACH

WATER SEGMENT: South Fork Yuba River – Reach #1: Jordan Reach (a total of 3.2 River Miles [RM]) from Jordan Creek Confluence (RM 40.2) to Rucker Creek Confluence (RM 37.0)

POLLUTANT: Mercury

SOURCE: None; known available data do not indicate impairment

STATUS of Proposed 2008 303(d) LISTING: Listed

CVRWQCB STAFF BASIS: After review of the available data and information, Central Valley Regional Water Quality Control Board (CVRWCB) staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded.

PG&E RECOMMENDATION: Do Not List

PG&E COMMENT: The CVRWQCB listed the entire South Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A).

Fish tissue mercury data have been collected at one location in the Jordan Reach below Lake Spaulding (Reach #1 of the South Yuba River). Data were collected in 1995 in cooperation with the Bureau of Land Management, SWRCB, Nevada County Resource Conservation District, U.S. Department of Agriculture, Forest Service, and the U.S. Environmental Protection Agency (Slotton et al. 1997 Revised).

The CVRWQCB reported in their factsheet that 5 samples had been collected and analyzed for mercury below Lake Spaulding in this river reach. However, the actual number of samples that were collected according to the report referenced above was 6 samples (4 rainbow trout and 2 brown trout). Zero of the 6 fish tissue samples collected from this location were in exceedance of the OEHHA mercury criterion (0.3 ppm). Concentrations ranged from

0.04 ppm to 0.11 ppm and averaged 0.07 ppm. This is well below the OEHHA mercury criterion (0.3 ppm). There is no justification for listing this river segment for mercury impairment.

Therefore, the known available data from Jordan Reach indicate that there is no justification for listing this river segment on the 303(d) list of impaired water bodies for mercury.

References:

Slotton, D. G., S. M. Ayers, J. E. Reuter, and C. R. Goldman. 1997 Revised. *Gold Mining Impacts on Food Chain Mercury in Northwestern Sierra Nevada Streams.* Final Report. Division of Environmental Studies, University of California, Davis. March 1997.

WATER SEGMENT:	South Fork Yuba River – Reach #2: Rucker Reach (a total of 1.4 RM) from Rucker Creek Confluence (RM 37.0) to Fall Creek Confluence (RM 35.6)
POLLUTANT:	Mercury
SOURCE:	None; no known data available, therefore no justification for listing
STATUS of Proposed 2008 303(d) LISTING:	Listed
CVRWQCB STAFF BASIS:	After review of the available data and information the CVRWQCB staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded.
PG&E RECOMMENDATION:	Do Not List
PG&E COMMENT:	The CVRWQCB listed the entire South Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A). No known fish tissue mercury data have been collected from the Rucker Reach (Reach #2 of the South Yuba River). Consequently, there is no justification for listing the Rucker Reach on the 303(d) list of impaired water bodies.

WATER SEGMENT:	South Fork Yuba River – Reach #3: Fall Reach (a total of 3.2 RM) from Fall Creek Confluence (RM 35.6) to Canyon Creek Confluence (RM 32.4)
POLLUTANT:	Mercury
SOURCE:	None; no known data available, therefore no justification for listing
STATUS of Proposed 2008 303(d) LISTING:	Listed
CVRWQCB STAFF BASIS:	After review of the available data and information the CVRWQCB staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded.
PG&E RECOMMENDATION:	Do Not List
PG&E COMMENT:	The CVRWQCB listed the entire South Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A). No known fish tissue mercury data have been collected from the Fall Reach (Reach #3 of the South Yuba River). Consequently, there is no justification for listing the Fall Reach on the 303(d) list of impaired water bodies.

WATER SEGMENT: South Fork Yuba River – Reach #4: Canyon Reach (a total of 4.4 RM) from Canyon Creek Confluence (RM 32.4) to Poorman Creek Confluence (RM 28.0)

POLLUTANT: Mercury

SOURCE: None; known available data do not indicate impairment

STATUS of Proposed 2008 303(d) LISTING: Listed

CVRWQCB STAFF BASIS: After review of the available data and information the CVRWQCB staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded.

PG&E RECOMMENDATION: Do Not List

PG&E'S RESPONSE: The CVRWQCB listed the entire South Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A).

Fish tissue mercury data have been collected at one location in the Canyon Reach near Washington Creek (Reach #4 of the South Fork Yuba River). Data were collected in 1993 in cooperation with the Bureau of Land Management, SWRCB, Nevada County Resource Conservation District, U.S. Department of Agriculture, Forest Service, and the U.S. Environmental Protection Agency (Slotton et al. 1997 Revised).

The CVRWQCB reported in their factsheet that 13 samples had been collected and analyzed for mercury near Washington Creek in this river reach. The CVRWQCB then states that 1 of 9 samples exceeded the OEHHA mercury criterion. PG&E would like to clarify that the actual number of samples that were collected according to the report referenced above was a total of 14 samples (all rainbow trout). Concentrations ranged from 0.10 ppm to 0.30 ppm and averaged 0.15 ppm.

Only 1 of the 14 fish tissue samples collected from this location was equal to the OEHHA mercury criterion (0.3 ppm). None of the fish tissue samples exceeded the criterion. This does not exceed the allowable frequency in Table 3.1 of the Listing Policy (which states that for a sample size of 2-24, greater than or equal to 2 exceedances is sufficient justification for listing a water body/pollutant combination), (SWRCB 2004).

Therefore, the known available data from Canyon Reach indicate that there is no justification for listing this river segment on the 303(d) list of impaired water bodies for mercury.

References:

Slotton, D. G., S. M. Ayers, J. E. Reuter, and C. R. Goldman. 1997 Revised. *Gold Mining Impacts on Food Chain Mercury in Northwestern Sierra Nevada Streams.* Final Report. Division of Environmental Studies, University of California, Davis. March 1997.

State Water Resources Control Board (SWRCB). 2004. *Water Quality Control Policy (Listing Policy) for Developing California's Clean Water Act Section 303(d) List.* September 2004.

WATER SEGMENT:	South Fork Yuba River – Reach #5: Poorman Reach (a total of 8.5 RM) from Poorman Creek Confluence (RM 28.0) to Humbug Creek Confluence (RM 19.5)
POLLUTANT:	Mercury
SOURCE:	None; no known data available, therefore no justification for listing
STATUS of Proposed 2008 303(d) LISTING:	Listed
CVRWQCB STAFF BASIS:	After review of the available data and information the CVRWQCB staff concluded that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards were exceeded.
PG&E RECOMMENDATION:	Do Not List
PG&E COMMENT:	The CVRWQCB listed the entire South Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A). No known fish tissue mercury data have been collected from the Poorman Reach (Reach #5 of the South Yuba River). Consequently, there is no justification for listing the Poorman Reach on the 303(d) list of impaired water bodies.

WATER SEGMENT: South Fork Yuba River – Reach #6: Humbug Reach (total of 19.5 RM), from Humbug Creek Confluence (RM 19.5) to Englebright Reservoir (RM 0.0)

POLLUTANT: Mercury

SOURCES: None; known data do not indicate impairment

STATUS of Proposed 2008 303(d) LISTING: List

CVRWQCB STAFF BASIS: After review of the available data and information, CVRWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

PG&E RECOMMENDATION: Do Not List

PG&E'S COMMENT: The CVRWQCB listed the entire South Fork Yuba River from Lake Spaulding to Lake Englebright (approximately 41+ RM). Arguments provided in the Water Segment Delineation Factsheet explain the necessity for determining appropriateness of listing or delisting based upon water segmentation of long rivers (30+ miles) with regard to environmental, biological, physical differences, as well as known availability of data within each individual reach (Attachment A).

Fish tissue mercury data have been collected at two locations (near Edwards Crossing and near Bridgeport) in the Humbug Reach, which is approximately 19.5 RM (Reach #4 of the South Fork Yuba River). Data were collected in 1999 in cooperation with the Bureau of Land Management, SWRCB, Nevada County Resource Conservation District, U.S. Department of Agriculture, Forest Service, and the U.S. Environmental Protection Agency (May et al. 2000) near Edwards Crossing and data were collected in 1980 near Bridgeport as part of the SWRCB Toxic Substances Monitoring Program: Freshwater Bioaccumulation Monitoring (SWRCB 2002).

The CVRWQCB reported in their factsheet that 2 samples near Edwards Crossing (both rainbow trout) and 1 three-fish composite sample (smallmouth bass) near Bridgeport had been collected and analyzed for mercury in the Humbug Reach. Concentrations of

mercury in the fish tissue from samples collected near Edwards Crossing were 0.15 pmm and 0.09 ppm. The concentration of the 3-fish composite sample collected near Bridgeport was 0.69 ppm. Only the sample collected near Bridgeport exceeded the OEHHA mercury criterion (0.3 ppm). Therefore a total of 1 of 3 samples from this reach exceeded the criterion and this does not exceed the allowable frequency in Table 3.1 of the Listing Policy (which states that for a sample size of 2-24, greater than or equal to 2 exceedances is sufficient justification for listing a water body/pollutant combination), (SWRCB 2004).

It should also be noted that 6 fish tissue samples were collected from Humbug Creek above and below the falls as part of the study to investigate South Yuba Watershed potential for mercury contamination conducted by May et al. in 1999 (May et al. 2000). Fish tissue mercury concentrations ranged from 0.16 ppm to 0.22 ppm in these samples. None of the samples from Humbug Creek exceeded the OEHHA criterion.

All of the known data presented by May et al. in 1999 supports the conclusion that mercury contamination in fish from the South Yuba River Watershed is low compared to other watersheds that may be affected by historic gold mining activities (all of the samples collected from the South Fork Yuba River Watershed were below the OEHHA mercury criterion of 0.3 ppm), (refer to Figure 9 – Stream Habitat Results - of the study conducted by May et al. 2000).

Therefore, the known available data from this river segment and from a primary tributary that influences this river segment indicate that <u>there is no justification for listing this river segment</u> on the 303(d) list of impaired water bodies for mercury.

References:

May, J.T.; R.L. Hothem; C.N. Alpers; and M.A. Law. 2000. *Mercury Bioaccumulation in Fish in a Region Affected by Historic Gold Mining: The South Yuba River, Deer Creek, and Bear River Watersheds, California 1999*. U.S. Geological Survey Open-File Report 00-367, Sacramento, California. 2000.

Slotton, D. G., S. M. Ayers, J. E. Reuter, and C. R. Goldman. 1997 Revised. *Gold Mining Impacts on Food Chain Mercury in Northwestern Sierra Nevada Streams.* Final Report. Division of Environmental Studies, University of California, Davis. March 1997.

State Water Resources Control Board (SWRCB). 2002. *Toxic Substances Monitoring Program: Freshwater Bioaccumulation Monitoring: TSM Program Data 1978-2000*. State Water Resources Control Board, Division of Water Quality.

SWRCB. 2004. *Water Quality Control Policy (Listing Policy) for Developing California's Clean Water Act Section 303(d) List.* September 2004.